Environmental Protection Agency
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Washington, DC 20460

Date: June 28, 2013

RE: Request for information and citations on Methods for Cumulative Risk Assessment
Docket ID No. EPA-HQ-ORD-2013-0292
ORD.Docket@epa.gov

To Whom It May Concern:

Thank you for this opportunity to provide comments on the Framework for Cumulative Risk Assessment guidelines. As leaders across the country that work on environmental justice issues every day, we feel it is essential that the EPA and other agencies consider all of the components that make up the exposure profile before making permitting and siting decisions that could add to the disproportionate impacts of existing communities.

While our comments are less technical in nature, we would like to share with you some general overarching thoughts regarding this proposed guidance.

Please do not hesitate to contact me, Jalonne White-Newsome at (202) 495-3036 if you have any additional questions or comments or would like to speak directly with any of the co-signers on this letter.

With kind regards,

Dr. Jalonne L. White-Newsome
WE ACT for Environmental Justice

Dr. Nicky Sheats
New Jersey Environmental Justice Alliance

Ms. Madeline Stano
Center on Race, Poverty & the Environment

Mr. Juan Parras
T.E.J.A.S

Ms. Laureen Boles
E4Progress, LLC

Ms. Sharon Lewis
Connecticut Coalition for Environmental Justice

Overarching comments

The purpose of this guidance is to provide some structure that the Environmental Protection Agency, state and local governments and diverse groups of stakeholders can use to address and consider cumulative exposures and cumulative risk in their screening and decision making processes around permitting and other actions. After reviewing the proposed guidance, there are some overarching thoughts that are important to extract. We feel that a thorough evaluation of current cumulative risk/impact assessment protocols that are in use and working is needed. This information should be accessible and assembled to provide a source for best practices (i.e. like a cumulative impacts resource database, etc.). This guidance must address, specifically, the impact of co-pollutants and 'hot spots' in environmental justice communities. Third, climate change and its impacts need to be a part of any new guidance that is developed. The impacts from climate change exacerbate the current conditions of many communities. Fourth, it would be useful to provide some suggested guidance on how to address cumulative impacts in tribal communities. And lastly, we need to promote the use of screening tools as a preliminary step in any cumulative risk assessment process.

Historical case studies that show the need for a cumulative approach

From a legal perspective, the National Environmental Policy Act, Executive Order 12898, the Food Quality Protection Act of 1996, and the Federal Food, Drug, and Cosmetic Act all involve specific examples of case law that involve a more holistic approach to addressing environmental exposure (Table 1).

Table 1: Legal tools that include cumulative risk considerations

Law / statute/Executive Order	Description
Executive Order 12898, February 11, 1994	Federal agencies, among other things need to consider multiple and cumulative exposure whenever practicable and appropriate.
National Environmental Policy Act, as amended (42 U.S.C. 4321, et seq.) Sec. 1508.7 defines Cumulative Impact.	Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."
Section 408 of the Federal Food, Drug, and Cosmetic Act (FFDCA) authorizes EPA to set tolerances, or maximum residue limits, for pesticide residues on foods. (21 U.S.C. §301 et seq.(2002)	" In setting tolerances, EPA must make a finding that the tolerance is 'safe." Safe is defined as meaning that there is a "reasonable certainty that no harm will result from aggregate exposure to the pesticide residue." To make the safety finding, EPA considers, among other things: the toxicity of the pesticide and its break-down products, aggregate exposure to the pesticide in foods and from other sources of exposure, and any special risks posed to infants and children."
Food Quality Protection Act of 1996 (FQPA) (PL 104-170, August 3,1996)	Directs EPA in its assessments of pesticide safety to focus, in part, on the cumulative effects of Pesticides that have common mechanism of toxicity, considering aggregate dietary and non occupational path way of exposure.

In Table 2, we have assembled specific case examples where a cumulative risk framework was found to be inadequate and needed to be enhanced to properly address exposure. Ultimately, additional factors and a different approach needed to be taken into account during preparation of cumulative risk assessment to satisfy the legal requirements of NEPA Statute and Council on Environmental Quality (CEQ) regulation.

Case	Key Challenge(s)	Court Decision
Oregon Natural Resources Council v. Marsh (1995; 52 F.3d 1485)	(1) Inadequate analysis of other projects in the project vicinity	EIS ruled **inadequate**
City of Carmel-by-the-Sea v. USDOT (1996; 95 F.3d 892)	(1) Inadequate analysis of other projects in the vicinity (2) Analysis lacked data/rationale	EIS ruled **inadequate**
Neighbors of Cuddy Mt. v. USFS (1998; 137 F.3d 1372)	(1) No analysis of three timber sales proposed in the project vicinity (2) Analysis lacked data/rationale	EIS ruled **inadequate**
Idaho Sporting Congress v. Thomas (1998; 137 F.3d 1146)	(1) Analysis lacked data/rationale	EA ruled **inadequate**
Blue Mts. Biodiversity Project v. Blackwood (1998; 161 F.3d 1208)	(1) No analysis of four other timber sales proposed in the same watershed	EA ruled **inadequate**; EIS needs to be prepared for all five projects (cumulative actions)
Muckleshoot Indian Tribe v. USFS (1999; 177 F.3d 800)	(1) No analysis of another land exchange in project vicinity (2) Analysis lacked data/rationale (3) Analysis cannot be tiered to a non-NEPA document	EIS ruled inadequate
Hall v. Norton (2001; 266 F.3d 969)	(1) No analysis of 57,000 acres of future disposal lands in the project vicinity	EA ruled **inadequate**
Native Ecosystems Council v. Dombeck (2002; 304 F.3d 886)	(1) Inadequate analysis for other projects proposed in the analysis area (2) Geographic area chosen for analysis too small	EA ruled **inadequate**
Hall v. Norton (2001; 266 F.3d 969)	(1) No analysis of 57,000 acres of future disposal lands in the project vicinity	EA ruled inadequate
Idaho Sporting Congress v. Rittenhouse (2002; 305 F.3d 957)	(1) Geographic area chosen for analysis too small	EIS ruled **inadequate**
Kern v. BLM (2002; 284 F.3d 1062)	(1) Inadequate analysis of other "reasonably foreseeable future actions" in the project vicinity	EA ruled **inadequate**
Earth Island Institute v. USFS (2003; 351 F.3d 1291)	(1) No analysis of a reasonably foreseeable future action	EIS ruled **inadequate**

Consequently, to fulfill the legal requirements and gaps noted in the above cases EPA should add some specific framework to the guidelines to ensure that in the screening and cumulative risk

assessment process, other projects in the area are properly and sufficiently analyzed, with respect to their impact on the proposed project. The analysis should also include the impacts of other reasonably foreseeable future actions in the project vicinity.

Specific parts of the CRA document that we need to highlight

Overall, the guidance outlines a useful beginning but much more is needed before they can be adapted to meet the various needs of local and state agencies. One critical missing piece, that might be developed overtime, is including some understanding and evaluation of current cumulative impacts strategies and how they are working or not working at addressing the disproportionate burdens on communities of color. As localities look to utilize this guidance as a tool, it is critical to understand what 'best practices' might be in place as a resource and a way of not 're-creating the wheel'.

Additionally, it is our hope that future guidance will offer ideas about how to at least incorporate – qualitatively - other non-chemical stressors as a part of the cumulative risk assessment process. Economic, stress and quality of life issues are critical and must be added into the equation somehow to capture true exposure profile.

We would also suggest that the impacts of climate change be considered, and where feasible, included in the total analysis. The recent EPA report on climate change indicators in the United States can provide a starter framework for items that can be included into the overall CRA analysis. For example, where air permits are being considered at the local level, levels of green house gas emissions, potential temperature extremes, and rainfall, for example, could be a part of the overall risk profile. As with most of this work, a defined method would be great to have, but in general for this guidance, noting the fact that climate change factors must be included in the conversation is a good first step.

In the case of some states, the EJ View mapping tool is used as a screening measure. However, to our knowledge, this tool does not include tribal communities nor provide the opportunity to insert other data points. Having this tool broadened would further the usefulness in a CRA scheme.

Some indirect considerations that will add to the challenge of promoting a cumulative impacts strategy in some areas are zoning issues and how whatever final process will take that into account. Chemical security – in many environmental justice communities – is also a critical concern and should be another layer in the cumulative risk assessment process.

Additional peer-reviewed literature that you might want to consider citing in this document is as follows:

- Young G.S., Fox M., Trush M, Kanarek N., Glass T., Curriero F. 2012. Differential Exposure to Hazardous Air Pollution in the United States: A Multilevel Analysis of Urbanization and Neighborhood Socioeconomic Deprivation. Int. J. Environ. Res. Public Health. 9 2204-2225.
- Sexton K. 2012. Cumulative Risk Assessment: An Overview of Methodological Approaches for Evaluating Combined health effects from exposure to multiple environmental stressors. Int. J. Environ. Res. Public Health. 9. 370-390.

Examples of where some cumulative risk assessment has been successfully used for decision making at the local, state and national level

Localities and states often provide good case studies on which to develop useful frameworks that could be adopted and expanded on a national level. We wanted to highlight three states that we feel are useful pieces that make up the cumulative impacts puzzle: screening, policy, and screening/policy being used for decision making.

California: A New Screening Tool

California EPA released an "Environmental Health Screening Tool" in April 2013 and provides their methodology for locating overburdened communities on the following website. It includes an online mapping feature in English and Spanish for folks to browse their own neighborhoods and to hopefully inform decision makers. CalEnviroScreen is a statewide tool that identifies communities in California overburdened by pollution from multiple sources and takes into account socioeconomic characteristics. California's definition of cumulative impacts is as follows:

> *"Cumulative impacts means exposures, public health or environmental effects from the combined emissions and discharges in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account sensitive populations and socio-economic factors…"*

This screening tool adds no formal/enforceable regulatory requirements to current permitting schemes or California EPA decision-making, but is said to be helpful to all California EPA decision-making/ local regional government decision-making. The method builds on traditional risk assessment theory and relies on "the use of indicators to measure factors that affect pollution impacts in communities." It uses a limited set of indicators, assigns scores for each indicator in a given geographic area, uses another scoring system to weight and sum each set of indicators within pollution burden and population characteristics, and derives a total score.

The basic formula is as follows:

Pollution Burden (Exposures and Environmental Effects) x Population characteristics (Sensitive Populations and Socioeconomic Factors) = CalEnviroScreen Score

- *Pollution Burden is Scored out 10 Maximum as is the Population Characteristics. Maximum total score is 100 (10 x 10)*
- *Zip Code scale is the unit of geographic analysis; Socioeconomic/Population Data taken from Census*
- *Six Indicators were identified: Ozone concentrations in the air; PM2.5; Diesel particulate matter emissions; Use of certain high-hazard, high-volatility pesticides; Toxic releases from facilities; traffic densities.*
- *Indicators measured by identifying pollution source emissions/discharges of environmental concentrations and exposures.*
- *Also included in the "Pollution Burden" Score are Toxic Cleanup Sites; Groundwater threats; Hazardous waste; Impaired water bodies; solid waste sites and facilities*

Since this model was introduced in April 2013, the impacts and effectiveness of the tool are yet to be seen. However, we feel this is an interesting quantitative model to build off of.

New Jersey: A Cumulative Impacts Policy

In New Jersey the environmental justice community has developed a coherent cumulative impacts policy to protect environmental justice communities from excessive amounts of pollution. The New Jersey Environmental Justice Alliance created the policy and its initial step would involve identifying environmental justice communities and overburdened communities by using a cumulative impacts screening tool that the New Jersey Department of Environmental Protection is developing.

After these communities have been identified the permitting process would be utilized to protect them from major new sources of pollution and to reduce existing pollution. Before a new Title V permit would be issued to a facility the applicant would have to demonstrate that it would not increase the net amount of pollution emissions in the community in which it is seeking to locate. It could accomplish this by either demonstrating that it would not emit any pollution or by offsetting pollution emissions by an amount that would exceed its own emissions. A key element of the policy is that any pollution emissions offsets would have to occur in the community where the facility that is utilizing the offsets is located.

The existing pollution burden in EJ and overburdened communities would be reduced when major sources of pollution applied for permit renewals. To obtain the renewal a facility would have to show that it would reduce pollution emissions in the community by establishing: 1) that its own emissions would decrease; or 2) that it would offset other emissions in the community in which it is located by an amount that exceeds its own emissions.

In addition to reducing pollution the policy addresses other quality of life issues by making these communities eligible for incentives and resources that could be used to increase open space, increase access to fresh food and attract non-polluting businesses.

Although this policy has been conceptualized by the New Jersey EJ community the state has taken no steps beyond developing the screening tool to adopt this policy.

Minnesota: Cumulative potential affects analysis process

The Minnesota Pollution Control Agency uses a cumulative potential affects analysis process that is required to be conducted for all new permits that are brought forth to the agency. They have been integrating this cumulative strategy in their air permitting decisions since 2009. The National Environmental Policy Act as well and the Minnesota Environmental Policy Act require a cumulative impacts analysis as a part of an environmental review, in any media (air, waste, water, etc.). As a result of a case in the mid-2000s, a Minnesota State Legislator in conjunction with local community members worked and passed language that requires the state Agency, within a time frame, to conduct a cumulative risk analysis.

The process that Minnesota uses is as follows:

- A facility applies for a permit with the state agency
    - Typical permit timeline is 150 days but it has expanded the timeline a little more due to the additional analysis.
    - A complete permit application includes: screening and modeling, all the data in the table, have to include the pollutants required to be modeled, forms and checklists. All of this material must be collected by the Facility.
- Community members are then brought into the process – with the Agency doing most of the community outreach. The Agency reaches out to local and community groups to get their feedback.
- The Agency uses the EPAs EJ Screening tool to do an initial review. They actually call the EPA to ask if the area they are looking at is considered an EJ community as well, as a first step.
- The Agency then conducts a Cumulative Potential Affects Analysis, where the Agency determines a risk number based on the facility emissions levels. They also look at air monitoring data and background pollution levels. In addition to this information, the Agency looks at multiple data sources (found on their checklist) that includes health outcome data and socio demographic data. While this is more of a qualitative process, it provides a basis for the final decision.
- The final decision is made.

Some of the benefits noted by Minnesota are the following:

- Community meetings have been very successful with engaging community members in the permit review process.
- They have seen facility based reductions because of this analysis as facilities are trying to limit their emissions in general.
- Provides an opportunity for different agencies to work together as they share data.

Some of the challenges that Minnesota noted in the process are as follows:

- Could probably consider conducting
- There is no specific cumulative risk guideline to compare their work with. California is coming up with an 'index' or one number. Minnesota's is a more qualitative process. EPA is trying to develop a "one-number" approach as well, i.e. adding up the numbers from dose/response curves.
- It's hard to address pollution that comes from 'other sources' in the cumulative impacts strategy.
- Finding and getting the best data is always a challenge

Closing thoughts

Moving forward with a concrete framework to address cumulative risk assessment at the Federal agency level, the state level and stakeholder level is crucial for protecting public health, especially those that are more vulnerable. There is a need to move the conversation away from just a pure cumulative risk assessment, towards a cumulative impact framework that allows a combination of factors to be a part of the assessment. For some of the EPA Offices that have employed some type of framework, it would be helpful to gauge how the framework they have developed is working so that they could be the impetus for designing best practices around what has proven to work. It is important to evaluate current attempts to utilize this process. Until that assessment is complete, using concepts or working models that exist – as presented by the states of California, New Jersey and Minnesota above – are useful case studies. It is our hope that this framework document will eventually move from guidance to some sort of substantial change in regulations that will require the assessment as a part of the regular processes undertaken by each of the Agency offices. For example, would amending the Clean Air Act and other major environmental laws of the land, guarantee the use of whatever final process is undertaken? Also, we feel it is critical that states have something to work from. Not only is a thoughtful guidance needed at the federal level, but since a lot of this work rests within the states, it would move this discussion forward by having a useful, practical framework – or options thereof – that states can work from.